

## Exhibit 1250-6a Superelevation Transitions for Highway Curves

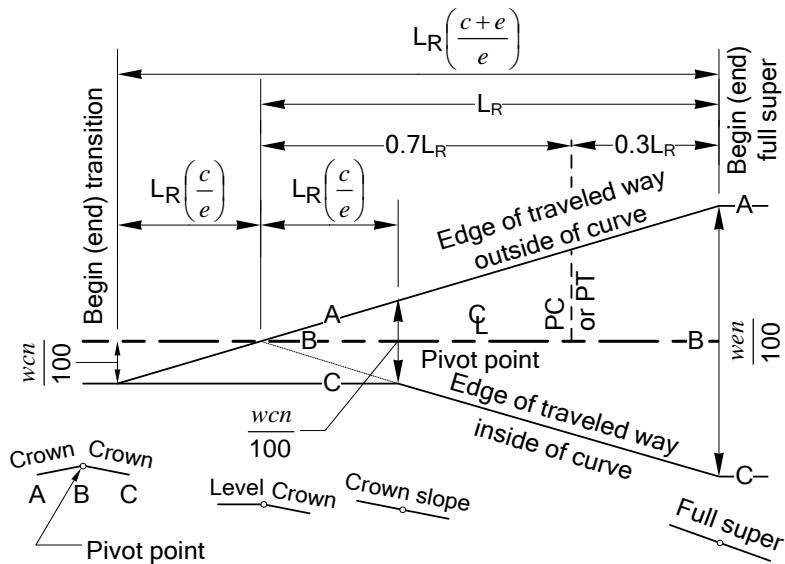
| e (%) | L <sub>B</sub> =Basic Runoff in Feet for Design Speed* |        |        |        |        |        |        |        |        |        |        |        |        |        |
|-------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|       | 15 mph   | 20 mph | 25 mph | 30 mph | 35 mph | 40 mph | 45 mph | 50 mph | 55 mph | 60 mph | 65 mph | 70 mph | 75 mph | 80 mph |
| 2     | 30   | 30     | 35     | 35     | 40     | 40     | 45     | 50     | 50     | 55     | 55     | 60     | 65     | 70     |
| 3     | 45   | 50     | 50     | 55     | 60     | 60     | 65     | 70     | 75     | 80     | 85     | 90     | 95     | 105    |
| 4     | 60   | 65     | 70     | 75     | 75     | 85     | 90     | 95     | 100    | 105    | 110    | 120    | 125    | 135    |
| 5     | 75   | 80     | 85     | 90     | 95     | 105    | 110    | 120    | 130    | 135    | 140    | 150    | 160    | 170    |
| 6     | 90   | 95     | 105    | 110    | 115    | 125    | 135    | 145    | 155    | 160    | 170    | 180    | 190    | 205    |
| 7     | 110  | 115    | 120    | 130    | 135    | 145    | 155    | 170    | 180    | 185    | 195    | 210    | 220    | 240    |
| 8     | 125  | 130    | 135    | 145    | 155    | 165    | 180    | 190    | 205    | 215    | 225    | 240    | 250    | 275    |
| 9     | 140  | 145    | 155    | 165    | 175    | 185    | 200    | 215    | 230    | 240    | 250    | 270    | 285    | 310    |
| 10    | 155  | 160    | 170    | 180    | 195    | 205    | 220    | 240    | 255    | 265    | 280    | 300    | 315    | 345    |

\*Based on one 12-ft lane between the pivot point and the edge of traveled way. When the distance exceeds 12 ft, use the following equation to obtain L<sub>R</sub>:

$$L_R = L_B(1+0.04167X)$$

Where:

X = The distance in excess of 12 ft between the pivot point and the farthest edge of traveled way, in ft.



#### Design A – Pivot Point on Centerline Crown Section

c = Normal crown (%)

e = Superelevation rate (%)

n = Number of lanes between points

w = Width of lane

From Above Exhibit 1250-6a, under 60 mph Design Speed, each 1% of grade increase will increase 25' of Runoff per a 12ft lane.

In this design case, cross slope increase from 2% to 5% equals 3% difference

$$\Rightarrow 1\%/25ft/12' \text{ per lane} = 3\%/L_B / 4' \text{ per lane}$$

$$\Rightarrow L_B = 225ft$$

$$\Rightarrow \text{Begin Transition at STA } 7626+40 - 225' = 7624+15, \\ \text{End Transition at STA } 7641+70 + 225' = 7643+95.$$